



FANTASYLAW COMMENTARY

GRADING MVP

HOW DOES HAVING AN MVP OR SEASON LEADER ON
YOUR ROSTER AFFECT YOUR TEAM'S PERFORMANCE?

Brian Rock

We're up to week 4 in the preseason, and it's time to start extrapolating. Although it's probably too soon to conduct anything approaching a scientific analysis of our data so far, I'm armed with an undergraduate course in introductory statistics and lots of free time before the fall semester starts, so here goes.

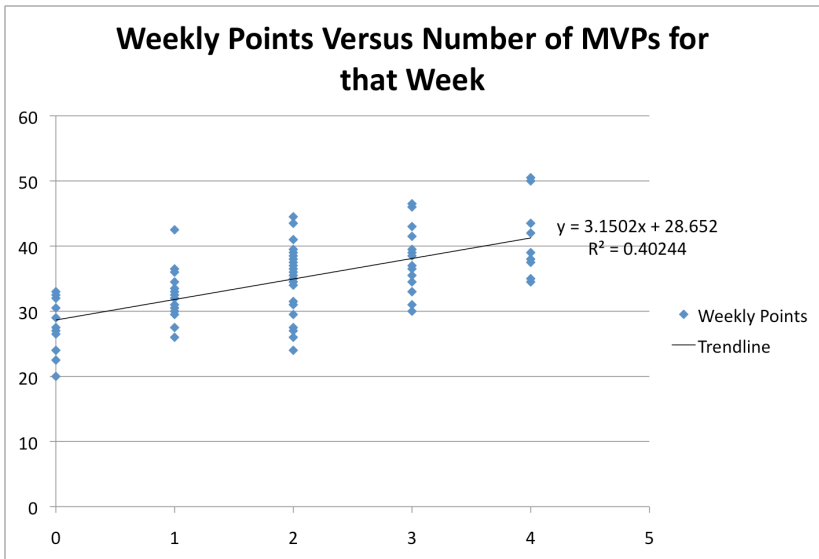
Each week, FantasyLaw publishes my MVPs and Season Leaders picks along with each league's results.¹ Ideally, MVPs are those Senators or Representatives who generate the most points for a team owner in a particular week, and Season Leaders are solid, week-in, week-out top performers. For the MVP and Season Leader designations to mean anything, the number of MVPs a team has should at least roughly correlate with the number of points that

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¹ See Brian Rock, *The Making of My FantasyLaw MVP*, 12 GREEN BAG 2D ____ (2009), www.fantasylaw.org.

team earns for that week. Likewise, a team with several Season Leaders should be ranked relatively high in its league's standings. So just how well do MVPs and Season Leaders predict team performance?

First, let's look at MVPs. To construct my data set I first went through each League's results for weeks 1 through 4 and counted how many MVPs each team had. I then paired these numbers with each team's total points for that week. The graph below shows the resulting set of ordered pairs – the x-axis shows number of MVPs and the y-axis shows weekly points.



This scatter plot shows a number of things about the relationship between MVPs and team performance. For one, there is a definite positive correlation between the number of MVPs a team has and how well that team does in a given week. It also appears roughly linear. The trendline (whose equation is $y \approx 3.2x + 28.7$) is an approximate quantification of the value of an MVP – it says that the

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average team with zero MVPs can expect to get about 28.7 points in a given week, and each MVP earns a team an average of 3.2 points.²

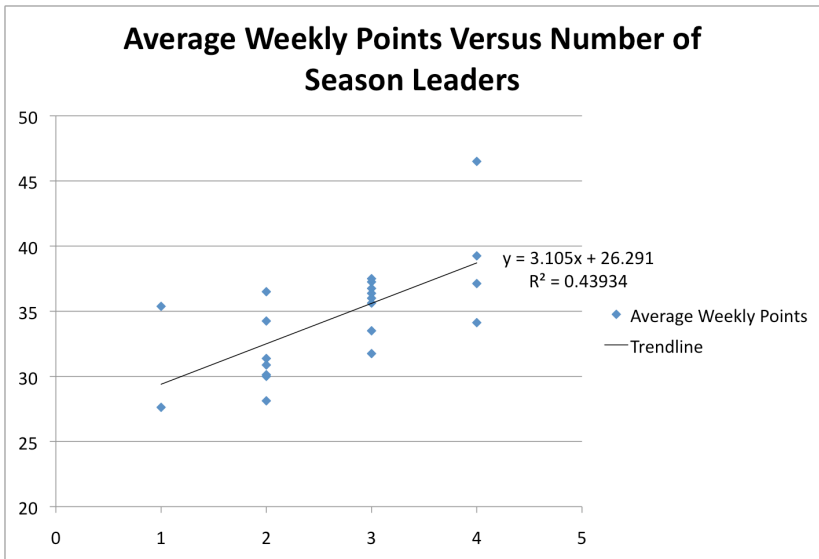
The strength of the correlation, however, isn't terribly strong. The data shows an R^2 value of about 0.4. What this means is that about 40% of the variation in weekly points is explained by the number of MVPs a team has. Conversely, 60% of the variation is due to factors other than MVPs. An R^2 value of 1 would mean that the independent variable *perfectly* predicts the dependent variable, *i.e.*, you could tell exactly how many points a team received in a given week just by knowing the number of MVPs it had. An R^2 value of 0 would mean that there was *no* correlation whatsoever between the independent variable and the dependent variable, *i.e.*, MVP picks are a total waste of time. An R^2 value of 0.4 lies somewhere between these two extremes.

One reason (and probably the biggest) explaining the loose correlation is that a team is made up of 10 players, and any single player's performance may be diluted by the whole. Thus, a strong performance by a single player doesn't always translate into a team winning a category. Another reason is that the MVP formula exaggerates the value of a strong performance in a single category, while a team's performance depends on winning several. For instance, a Representative who wins a category outright (*e.g.*, Nancy Pelosi for number of Press Releases Issued or Appearances in Daily Newspapers) will get 441 points in that week's MVP calculation. This windfall alone may earn that individual player an MVP spot, but the most a team can earn for winning a single category is a 5 or 6. Therefore, a legislator who specializes in one or two categories can consistently earn MVP points while only marginally contributing to his or her team's overall performance. Finally, we're dealing with a fairly discretized variable here – there's no such thing (at least with modern technology) as a fraction of a Congressman. So, the roughness of the

² The Galloping Gophers League is the only league with 6 teams, not 5, so weekly points for that league are appropriately $\sim 16\%$ higher than other leagues. The trendline and overall correlation without the Galloping Gophers League's data, however, is about the same (the trendline equation is $y = 3.1x + 28.2$ and $R^2 = 0.42372$), so I include their data anyway.

correlation could be due in part to the fact that our independent variable only comes in whole numbers, blunting the precision that a more continuous variable would provide. This shortcoming (if a true explanation at all) can be overcome by more data, but that's for a future posting.

All told, even if MVP as a predictor is not very strong, it is probably still significant. That is, having a lot of MVPs may not always translate into a weekly win, but on average it does. The same goes for Season Leaders. Running the same sorts of calculations for Season Leaders reveals a similar correlation and trendline:



Like MVPs, a Season Leader earns a team, on average, an extra 3.1 points each week. The R^2 value is about 0.44, roughly the same as the MVP correlation.³

Time (and more data) will tell whether MVPs and Season Leaders are truly meaningful titles or mere pretense. This was also not a

³ You will notice that a team with only one Season Leader managed to get over 35 weekly points on average so far. I'm not going to name any names, but this outlier may be having an anomalous performance due to an anomalous extra Senator on its roster.

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rigorous statistical study, nor was it meant to be. It shows what it shows, to the extent that it shows it. The rest I leave to you, current and future FantasyLaw participants, to scrutinize as you will.